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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/155,635	07/09/1999	HIDEHARU SATO	48699	8942
21874	7590	02/04/2005	EXAMINER	
EDWARDS & ANGELL, LLP			CHANEY, CAROL DIANE	
P.O. BOX 55874			ART UNIT	
BOSTON, MA 02205			PAPER NUMBER	

1745

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/155,635

Applicant(s)

SATO ET AL.

Examiner

Carol Chaney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05 March 2004 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 9, line 7 "said graphite material satisfying the following conditions (a) and (b)..." is indefinite because it unclear if the "graphite material" refers to coated graphite or to the graphite which forms the core of a coated material.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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Claims 9, 11 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamada et al., US Patent 6,040,092.

Yamada et al. disclose lithium secondary batteries having anode active materials, formed from graphite coated with a less crystalline carbon. (Note abstract.) In a specific embodiment, Lonza graphite powder KS 25 is used as the core graphite material. The core graphite has a particle size of 14 μm , a surface area of 1.5 m^2/g and a R value of 0.2. The ratio R is the ratio of the intensity of the Raman peak in the vicinity of 1360 cm^{-1} to the intensity of the Raman peak in the region 1580 cm^{-1} . (Column 3, lines 30-34.) (Note Embodiment 11, column 10, lines 56-59.)

The core graphite material satisfies applicants' formula $y \leq (42 \text{ m}^2/\text{g} \cdot \mu\text{m}^{-0.6})(x)^{-0.6}$ where y is surface area in m^2/g , x is particle size in μm , $0.1 \leq y \leq 20$, and $4 \leq x \leq 30$ since

$$1.5 \text{ m}^2/\text{g} \leq (42 \text{ m}^2/\text{g} \cdot \mu\text{m}^{-0.6})(14\mu\text{m})^{-0.6} = 8.6 \text{ m}^2/\text{g}.$$

The coated graphite material disclosed by Yamada et al. has a particle size of 18 μm and a surface area of 3.8 m^2/g . (Column 10, line 63-column 11, line 1.) Therefore, the coated graphite material also satisfies the formula $y \leq (42 \text{ m}^2/\text{g} \cdot \mu\text{m}^{-0.6})(x)^{-0.6}$ where y is surface area in m^2/g and x is particle size in μm and $0.1 \leq y \leq 20$, $4 \leq x \leq 30$ since

$$3.8 \text{ m}^2/\text{g} \leq (42 \text{ m}^2/\text{g} \cdot \mu\text{m}^{-0.6})(18\mu\text{m})^{-0.6}$$

$$3.8 \text{ m}^2/\text{g} \leq 7.4 \text{ m}^2/\text{g}.$$

With regards to claims 11 and 12, Yamada et al., teach the R values of their inventive cathode materials should be "not more than 0.4". (Column 3, Lines 20-33)

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This recitation is considered to encompass values ranging from 0 to 0.4, which encompasses the ranges of R values recited in applicants' claims 11 and 12. Thus, the claims are anticipated.

Claim Rejections - 35 USC §103

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al., US Patent 6,040,092.

As discussed above, Yamada et al. disclose applicants' invention essentially as claimed, with the exception that Yamada et al. do not disclose a half width value of the 1570-1620 cm^{-1} Raman peak between 14 to 22. However, applicants' invention as a whole would have been obvious to one of ordinary skill in the art. The shapes of Raman peaks observed for graphite will be determined by the defects present in the graphite materials, and since the graphites disclosed by Yamada et al. and the applicants are similar, the shapes of the Raman spectra must be similar.

As evidence, note the website <http://www.nims.go.jp/ldynamics/Raman/Raman5.html> which shows Raman spectra of graphite being disordered by ion irradiation.

Response to Arguments

Applicant's arguments and declarations filed 05 March 2004 have been fully considered but they are not persuasive. Applicant asserts the data provided in the Yamada et al. patent, US Patent 6,040,092, and relied upon in making the rejections of claims 9-12 is incorrect. This argument is not found persuasive as the Yamada et al.

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reference is an issued United States patent and thus presumed valid. The values recited in the Yamada et al. embodiment 11 are not obvious typographic errors, and are therefore presumed to be correct.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol Chaney whose telephone number is (571) 272-1284. The examiner can normally be reached on Mon - Fri 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Carol Chaney
Primary Examiner
Art Unit 1745

3 February 2005